AMENDMENTS TO THE CLAIMS

Please amend claims 7 and 8 such that the status of the claims is as follows:

1. (Previously presented) A magnetoresistive sensor having a magnetoresistive stack biased by one or more hard bias elements, the sensor characterized by:

the hard bias elements are formed from a hard magnetic material deposited in a thin film having a substantially axial preferred direction of magnetic anisotropy prior to application of a setting field.

2. (Previously presented) The magnetoresistive sensor of claim 1 wherein the preferred direction of the magnetic anisotropy of the thin film is in-plane and parallel to an air bearing surface of the magnetoresistive stack.

3. (Previously presented) The magnetoresistive sensor of claim 1 wherein the thin film of hard magnetic material has elongated domains oriented parallel to an air bearing surface of the magnetoresistive stack.

4. (Previously presented) The magnetoresistive sensor of claim 3 wherein the preferred direction of the magnetic anisotropy of the thin film is in-plane and parallel to an air bearing surface of the magnetoresistive stack.

5. (Original) The magnetoresistive sensor of claim 1 wherein the hard magnetic material is oblique deposited at an angle selected from 60° up to 90° measured from a surface normal.

6. (Previously presented) The magnetoresistive sensor of claim 5 wherein the oblique deposition is additionally oriented approximately normal to an air bearing surface of the magnetoresistive sensor.

7. (Currently amended) The magnetoresistive sensor of claim 6 wherein the oblique deposition is additionally oriented normal to an air bearing surface of the magnetoresistive sensor and the oblique deposition ~~may be~~ is wobbled about the normal orientation.

8. (Currently amended) The magnetoresistive sensor of claim 1 wherein the thin film of hard magnetic material is deposited in a plurality of layers including layers A and ~~layer~~ B, wherein the layer A is deposited generally perpendicular to the air bearing surface direction followed by deposition of the layer B, the layer B being deposited generally perpendicular to the air bearing surface direction, but 180° from the deposition orientation of the layer A.

9. (Original) The magnetoresistive sensor of claim 8 wherein layer A and layer B are deposited at an oblique angle of deposition relative to a surface normal.

10. (Previously presented) A hard bias element adjacent to a magnetoresistive stack having a preferred magnetic anisotropy in a magnetoresistive sensor having an air bearing surface, wherein the hard bias element is formed from a hard magnetic thin film material having elongated domains oriented parallel to the preferred magnetic anisotropy.

11. (Original) The hard bias element of claim 10 wherein the elongated grains are oblique deposited at an angle selected from 60° up to 90° measured from a surface normal.

12. (Original) The hard bias element of claim 10 wherein the elongated grains are oblique deposited at an angle selected from approximately 65° to approximately 75° measured from a surface normal.

13. (Previously presented) The hard bias element of claim 10 wherein the hard magnetic thin film material has magnetic anisotropy induced in-plane along an axis parallel to the air bearing surface prior to application of a setting field.

14. (Previously presented) The hard bias element of claim 10 wherein the preferred magnetic anisotropy is perpendicular to the air bearing surface.

15. (Previously presented) A magnetoresistive sensor comprising:

a magnetoresistive stack having an air bearing surface;

a first hard bias element positioned adjacent to a first side of the magnetoresistive stack and having elongated grains of hard magnetic material oriented parallel to the air bearing surface; and

a second hard bias element positioned adjacent to a second side of the magnetoresistive stack and having elongated grains of hard magnetic material oriented parallel to the air bearing surface.

16. (Previously presented) The magnetoresistive sensor of claim 15 wherein the first hard bias element has a preferred direction of magnetic anisotropy in-plane and parallel to the air bearing surface and the second hard bias element has a preferred direction of magnetic anisotropy in-plane and parallel to the air bearing surface.

17. (Original) The magnetoresistive sensor of claim 15 wherein the hard magnetic material is oblique deposited at an angle selected from 60° up to 90° measured from a surface normal.

18. (Previously presented) The magnetoresistive sensor of claim 17 wherein the oblique deposition is additionally oriented approximately normal to an air bearing surface of the magnetoresistive sensor.

19-24. (Canceled)